

# Fail-Safe Electric Dropbolt Installation Instructions

## EB170/EB180/EB190TG Series

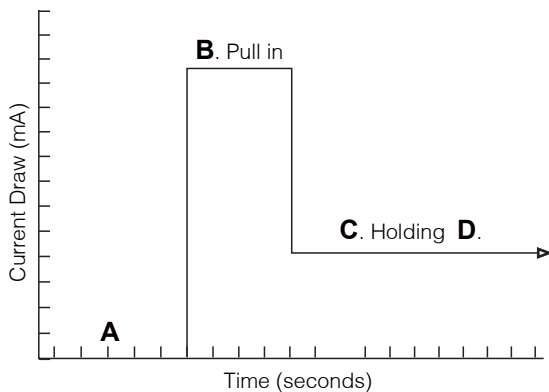
### Features

- Horizontal or vertical installation
- Available in mortise, surface and glass mount
- For double and single action doors
- Energy saving intelligent electronics
- Vandal resistant circuit design
- Relock time delay (Selectable from 0, 3, 6, 9 seconds)
- Push button trigger input (For EB190TG/EB195TG models)
- Field adjustable ball catch for wide door gaps (For P models)
- Available in round corner faceplate (EB170/EB180/EB190TG) and corner faceplate (EB175/EB185/EB195TG)

### Specifications

| Models (Series)             | EB170<br>EB175               | EB180<br>EB185 | EB190TG<br>EB195TG |
|-----------------------------|------------------------------|----------------|--------------------|
| Mode                        | Fail-Safe                    |                |                    |
| Operating Voltage           | 12/24 VDC                    |                |                    |
| Operating Temperature       | -10°C~+49°C                  |                |                    |
| Humidity                    | 0~85% non-condensing         |                |                    |
| Current Draw                | Pull in: 0.9A/12V; 0.45A/24V |                |                    |
|                             | Holding: 0.15A/12V; 0.1A/24V |                |                    |
| Bolt Status Sensor Output   |                              | ●              | ●                  |
| Door Position Status Output | ●                            |                | ●                  |
| Relock Time Delay           | ●                            | ●              | ●                  |
| Push Button Trigger Input   |                              |                | ●                  |
| Ball Catch (For P models)   |                              | ●              | ●                  |

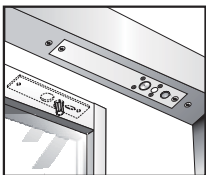
### Intelligent Electronics & Energy Saving Design



All models are designed with intelligent logic circuit allowing the bolt to keep retracting until the door is properly closed.

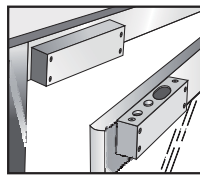
- When the swing-through door is closed, the relock delay time begins and the reed switch in the lock detects the sensor magnet in the strike plate.
- The bolt projects after relock delay time expires and keeps projecting until the door is closed in the correct position and locked.
- After the bolt is projected to lock the door, the current draw will drop to the normal state.
- The reed switch will automatically switch off at the same time when the door is locked.

#### Mortise Mount



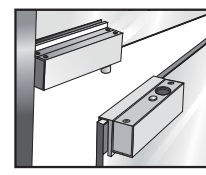
For models without S and VGL  
(e.g. EB180, EB190TG)

#### Surface Mount



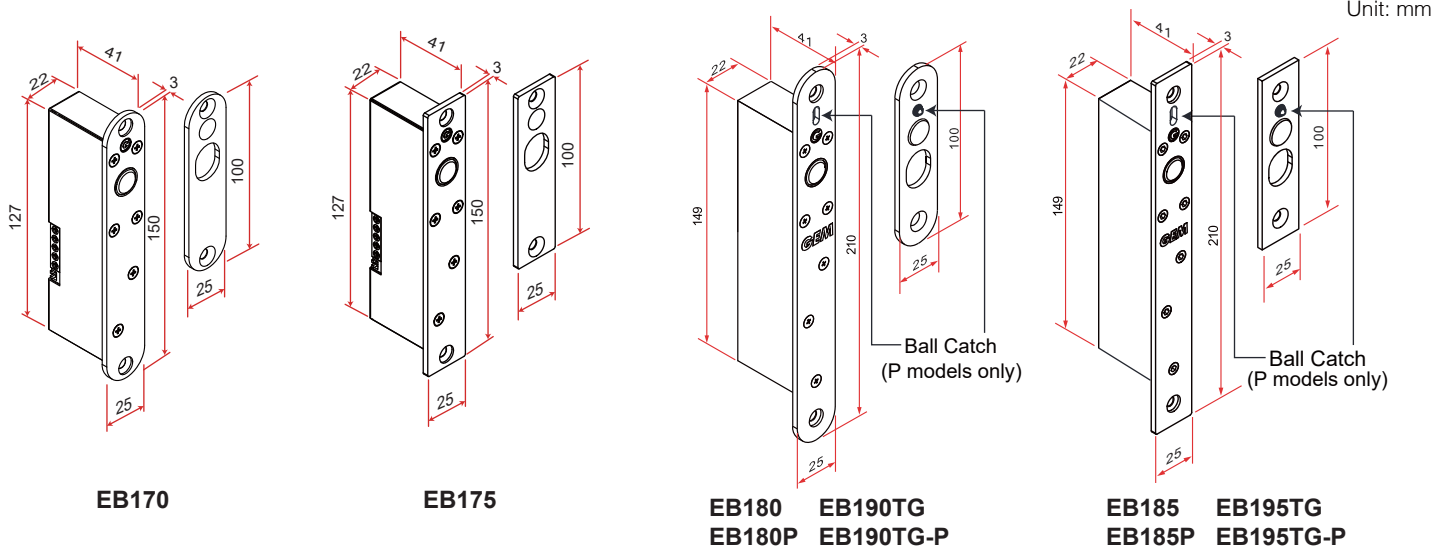
For models with S  
(e.g. EB195TGS)

#### Glass Mount



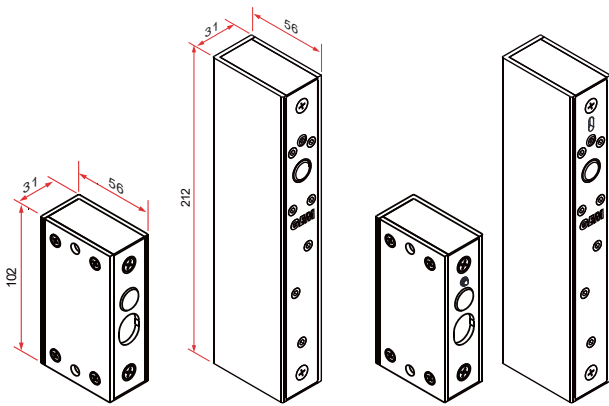
For models with VGL  
(e.g. EB195TGVGL)

### Mortise Mount Models



## Surface & Glass Mount Models

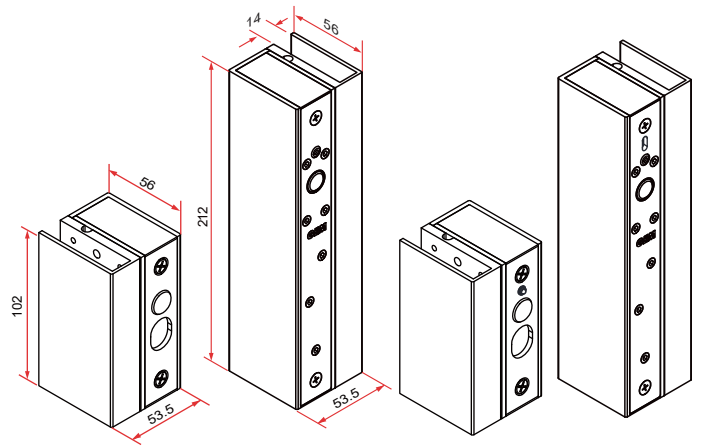
Unit: mm



**EB185S  
EB195TGS**

**EB185S-P  
EB195TGS-P**

(Surface Mount)



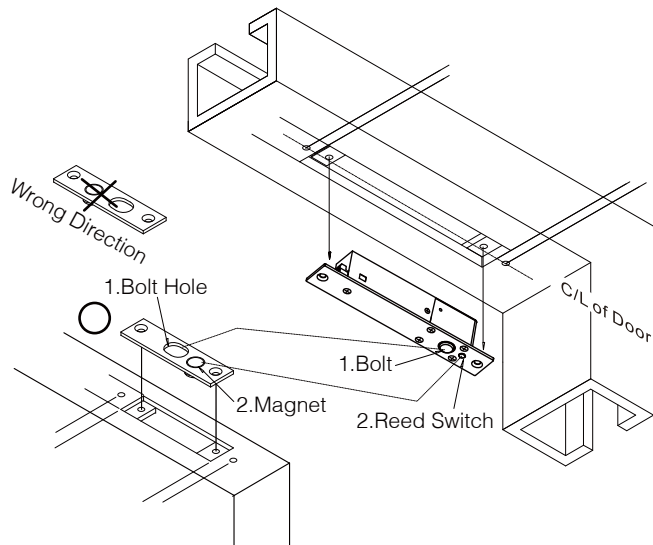
**EB185VGL  
EB195TGVL**

**EB185VGL-P  
EB195TGVL-P**

(Glass Mount - For full frameless glass doors & walls)

## Mortise Mount Installation (For Hollow Metal Doors)

Please refer to the particular template for each specific cutting size and location to drill the screw holes.



**\*Please follow the instructions below before cutting the hole:**

1. Check if the bolt and the bolt hole are aligned.
2. Check if the magnet and the reed switch are aligned.

### Installation Instructions

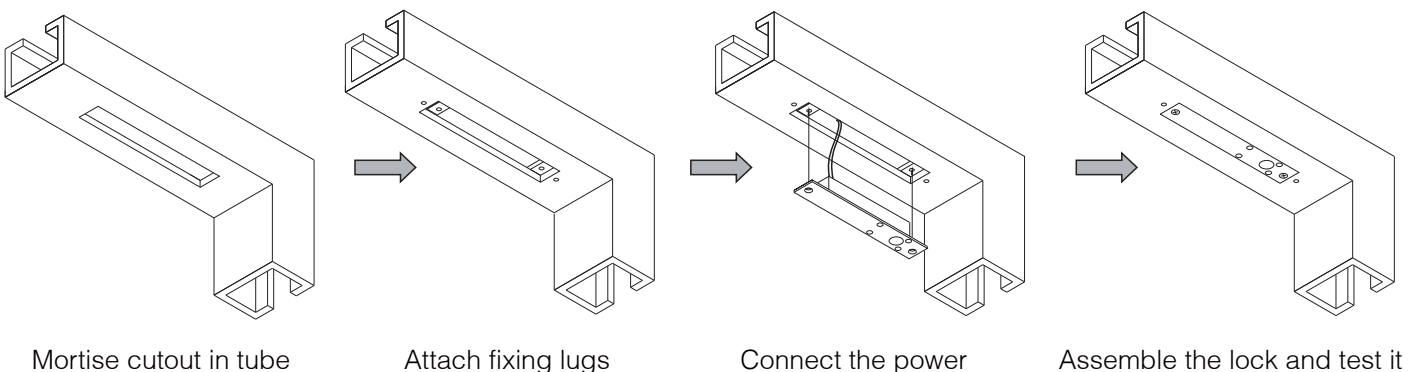
Ensure that the door frame can accommodate the lock body. Also check if it is possible to place the wires inside the door frame.

Ensure that the double action door swings back to the correct position so the dropbolt can lock up immediately.

Check if the regulated power supply or controller provides the correct current draw (Pull-in current: 0.9A/12VDC, holding current: 0.3A/12VDC, current: 0.3A/12VDC).

### Warning:

1. The connection of an incorrect voltage may result in damage and is not covered by the product warranty.
2. Select an appropriate wire gauge to ensure sufficient power for the lock to operate.
3. DO NOT OIL OR LUBRICATE as this may cause damage to the internal electrics. This product is weather resistant under normal use and does not require maintenance.
4. This product must be used in conjunction with a quality floor spring or door closer to ensure positive realignment on closing.



Mortise cutout in tube

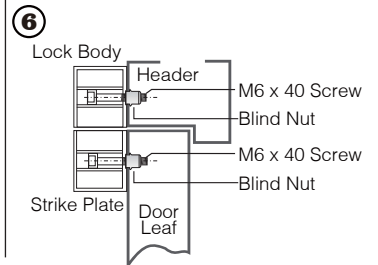
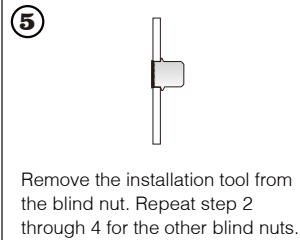
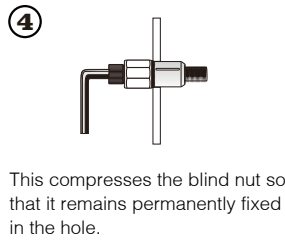
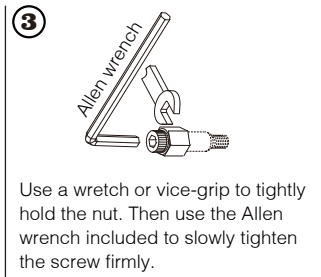
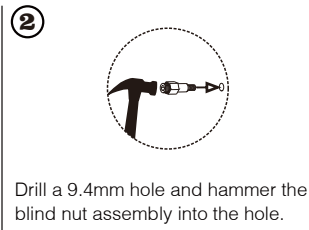
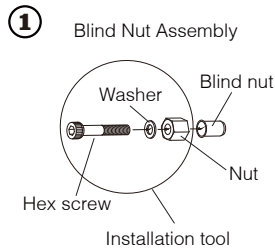
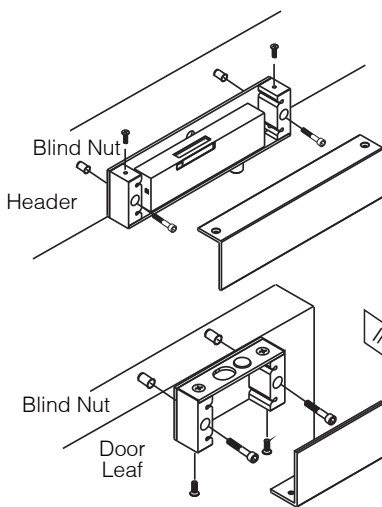
Attach fixing lugs

Connect the power

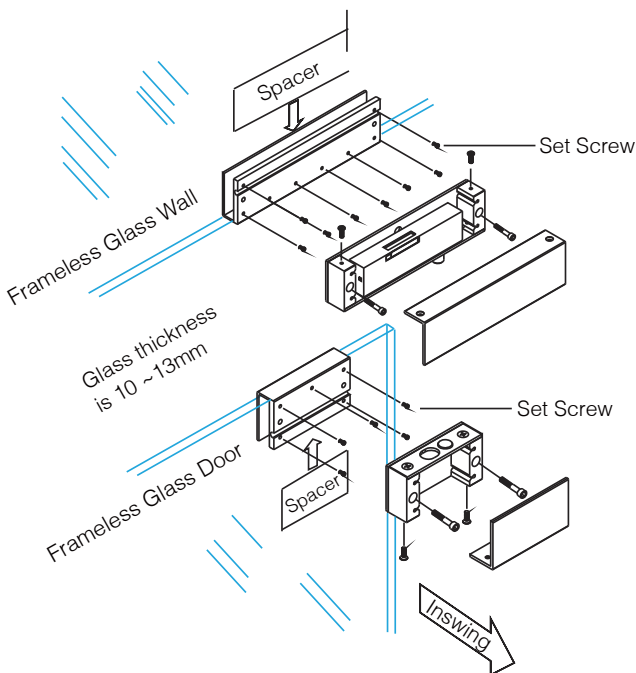
Assemble the lock and test it

## Surface Mount Installation (Models with S)

### Installing Blind Nuts



## Glass Mount Installation (Models with VGL)



### Installation Instructions

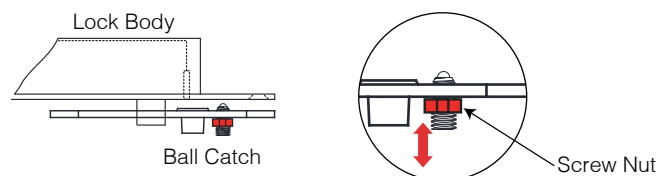
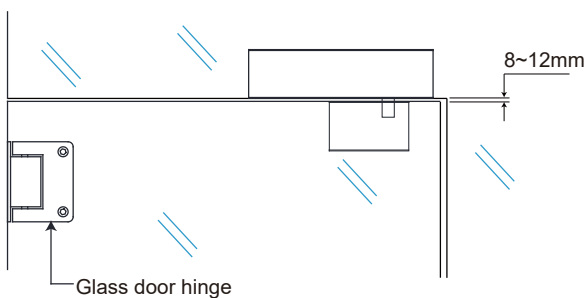
1. Determine where the electric dropbolt will be installed and clean the surface of the glasses.
2. Take off the sticker on the back side of the spacer and attach the spacer(s) to the glass. The U shape VGL bracket is 14mm in width and the spacer is 1mm in thickness. Add more spacers if needed per thickness of the glass. Use silicone sealant or other adhesives to secure the VGL bracket firmly.
3. Tighten the set screws with an Allen wrench, secure the dropbolt to the glass bracket, and then install the cover.

### Caution:

1. It is recommended to attach the spacers to the interior/secured side of the door.
2. Tighten the set screws firmly but do not overtighten to cause damage to the glass.
3. Thickness of the glass should be 10~13 mm. The position of strike plate and dropbolt should be adjusted to narrow the door gap to within a range of 8~12 mm.

## Adjusting the Ball Catch (For P Models)

Adjusting the ball catch helps the electric dropbolt swing back in the correct position and alignment, especially in the case of a double action door.

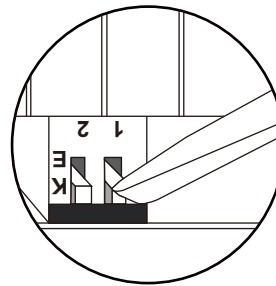
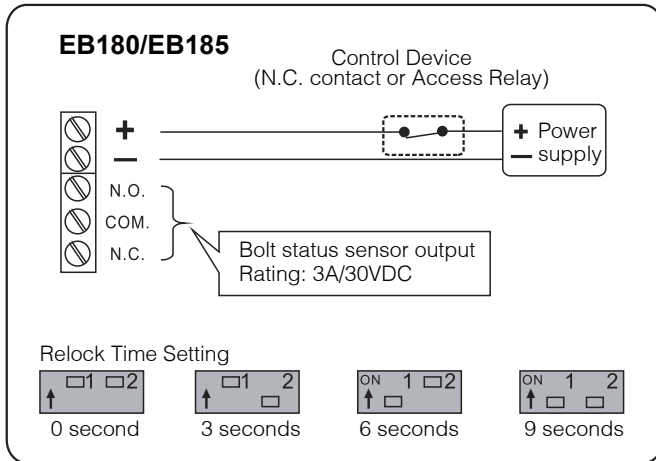
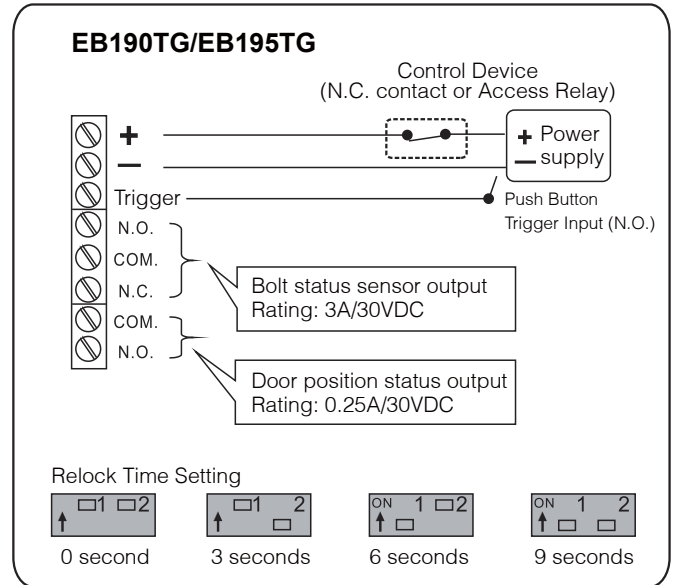
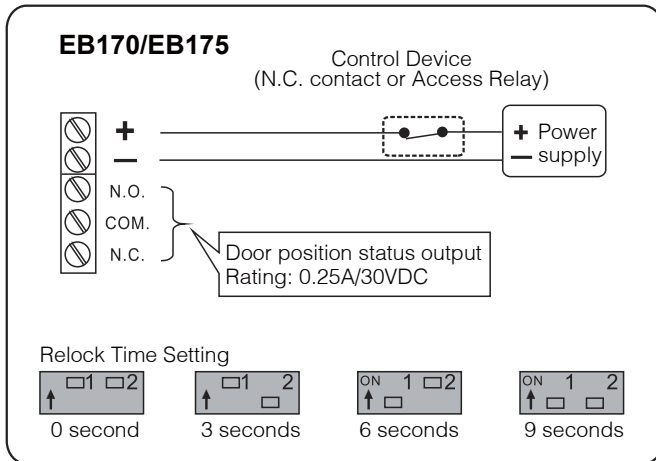


The ball catch can be extended or shortened by turning the screw nut.

## Wiring Diagrams

### Caution:

Make sure that the "+" and "-" wires are connected correctly. Failure to observe polarity will result in a short circuit and is not covered by product warranty.

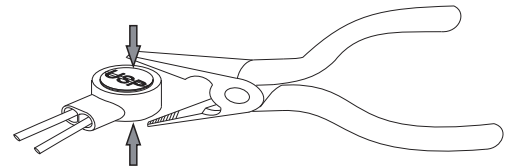


We recommend using a flathead screwdriver to adjust the relock time setting.

## Installing the Crimp Connectors:

Crimp connectors are provided to make wiring connections easier and more reliable. To install the connectors:

1. Insert the wires into the connector.
2. Use a crimping tool or pliers to evenly press down on the head of the connector.



## Troubleshooting

| Problem   | Possible Cause   | Solution  |
|---|--|---|
| Dropbolt is not activated when the door is closed | The gap between the strike plate and the dropbolt is too large | Narrow the gap between the reed switch and magnet to less than 5 mm.  |
|   | Low voltage /current   | Check the output voltage and the current draw.<br>(Pull-in current: 0.9A/12VDC)   |
| Bolt keeps projecting                             | Low voltage/current  | Check the output voltage and the current draw.<br>(Pull-in current: 0.9A/12VDC)   |
|   | Dropbolt is not locked properly                                | Adjust the door closer or the door hinge so that the door is closed in the correct position.<br>Change the door swing to single action if the hinge cannot be adjusted. |
| Bolt cannot retract                               | Strike plate is misaligned                                     | Move or sway the door to release the bolt to open the door.   |
|   |  | Change the door swing to single action if the hinge cannot be adjusted.   |